

# AGRICULTURAL MUSEUM.

OMNIS FERET OMNIA TELLUS. VIRG.

Vol. I.] *Georgetown, Ca. Sept. 26, 1810.* [No. 7.

QUERIES ADDRESSED TO THE EDITOR OF THE AGRICULTURAL MUSEUM.

**Query 1.** Are your Citizens, Planters and Farmers, sufficiently aware of the importance of saving, making and using manures? It may be laid down as a general principle, that every mode of cultivation which does not employ these great fertilizers, will ultimately impoverish the land, render the crops smaller and smaller, make the cultivator move on the descending scale, and turn his farm into a *sinking* fund. On the other hand, where manures are largely applied, and the lands judiciously cultivated, they become more and more productive every year, and the cultivator goes on increasing his property like the accumulations of compound interest. In a bad mode of cultivation, the crops are eventually diminished, while the expences continue much the same, or are perhaps increased, until the latter entirely swallow up the former. But in an ameliorating culture, the produce continually increases, while the capital (that is the quantity of land) continues the same, the labour and expences become less and less in proportion to the produce, and the clear gains of course greater and greater. What a contrast between the two modes! How vast the difference both to the individual and the country!

*Query 2.* Is the value of Ashes, especially of leached ashes, as a manure well understood? I have known 8 Cents a bushel given for drawn ashes, by experienced farmers, and they declare it to be at that price a cheap manure. It requires but little labour in carting and putting it on the land, to what an equally efficacious quantity



judicial to sheep, and may in part occasion that well-known disorder, the rot in the liver. There is little doubt, that it is the immediate occasion of the foot rot, which, in this climate, rarely makes its appearance before St Bartholomew's Day (the 25th of August), when the dews usually begin to make their appearance, as is expressed by the old adage—"St. Bartholomew brings on cold dew." The remedy, if instantly applied, is certain;—a caustic wash rubbed in between the hoof, will stop the stripping of the skin, and the horn of the hoof toward the toe being cut away (so as to see the clear transparent horn), leaves no room for this foetid substance to get hold of the foot. Great care must be taken, not to cut away the extreme point of the hoof called the "toe-vein," because it deprives the foot of due circulation of the blood; in other respects, the foot cannot be pared away too close: when the corrosive styptic has been rubbed in, let the sheep be kept in a dry place, to allow the remedy to have its due effect; and separate the stripped and lame sheep from the flock for two days, and the disease will disappear: if it is to be seen for more than forty-eight hours in the same animal, it is generally the fault of the shepherd. The disease has been supposed inherent in the land: I am of opinion this is not the case, because I know that land, supposed to be deeply tainted, has lost (judging from the sheep depastured on it) all vestige of the disease, although unbroken, and not even manured on the sward, which happened to be very old. On that part of the author's farm on which the Merino sheep usually depastured, the foot rot prevailed to the greatest degree when occupied formerly by the heavy long-wool sheep of that district; it has been completely subdued for several years.

They are subject to no constitutional disease, from which other breeds are exempted, after the lambs have weathered the first three weeks, and even during that period, only from the shortness of the wool when first dropped, a difficulty to which all fine-woolled sheep are



subject. § But it requires no remedy beyond that common caution practised by all the careful flock-masters of South Britain, namely, without shutting up the ewes and lambs in close confined buildings, which are injurious, to drive them into some sheltered homestead, out of the reach of the cutting blasts of wintry winds and drifting snows, which even in the southern parts of our island, make dreadful havoc where flocks have been left so exposed. I know of no farmers more attentive to this substantial good husbandry, than the farmers of the South Downs. In Spain the sheep are carefully housed during the night, or in cold raw weather, for some days after shearing; they are sweated a day or two before this operation, to make the wool part well from the body, and, perhaps, to add something to the weight. If, in one uniform temperature of climate, this treatment is essential to the health of sheep, and beyond a doubt it is so; how much more is it necessary in the variable and uncertain climate of Great Britain? Yet numbers of us have never given a moment's thought, to what we may suppose would be self-evident to men of any capacity whatever; although we cannot command a temperate or steady climate, much of its severity may be counteracted by cheap and simple means. In the mountainous or hilly districts, essential benefit to the wool may be derived from attention to aspect and elevation, as well as soil; and where this attention has been paid, wool is of a superior quality. It is also familiar to every farmer whatever, that the value of the carcass is much influenced by an attention to this circumstance; by stocking the higher ground in summer, where fresh air may be found; and low, well sheltered lands, lying to the south,

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§ Nature seems to have guarded with peculiar care this race, as if conscious of the value of what in her bounty she was giving to man; for, strange as it may appear, it is no less true, that when they are first dropped, the lambs are covered with a long down or hair, which, in the period of a month, falls off, and is a sure prognostic of the finest quality of wool. Whether this extraordinary covering is thicker, or more frequently found in cold climates than in warmer ones; or whether it classes them thus next in gradation to the Lama, or those other animals which, under a hairy covering, carry that downy wool so celebrated in Asia, is a question rather for the naturalist than the husbandman.

when winter advances; but though known, this is forever neglected in practice.

Sheep, in some vales, particularly of the southern and western districts, where inclosures are small, and the circulation of fresh air impeded, will pay little or nothing during the summer months, let the keep be ever so good, owing to the heat and that instinctive terror which they have of the maggot or blow fly. In the three winter months again, all men consider themselves fortunate, if their store flock lose nothing in condition. Reasoning on our own knowledge, and on facts long established, need any stronger argument be adduced to show, how, attentive we must hereafter be to such a system, if we had not at this hour, sheep in every part of the kingdom dying by thousands, of cold and want of keep? It is cheaper to feed the outside than the inside; yet plain as all this seems to be, the practice is rarely, if any where, to be found but in Herefordshire: therefore it is, that the Ryeland is next in quality to the Spanish wool; and Spanish writers themselves confess it.

It must not be supposed, that I am suggesting costly buildings for the purpose of coting sheep in the night time during cold weather; two objections arise to them; they are not moveable, and may want fresh air, unless high and large, for air and warmth are equally necessary to sheep at these seasons. Nothing can be more simple than that cot or covered fold I wish to recommend for general adoption during the cold months.

A circular wall 12 feet high, inclosing an area of 40 yards diameter, and on the inside of this wall, a shed, the roof of which slopes inward with an easy descent to 6 feet, will completely shelter a flock of many hundred sheep; as may be seen on the farm at Crawley, near Woburn, the property of his Grace the Duke of Bedford.

Another fold yard for sheep is to be seen at Betshanger, near Deal, in Kent, composed of the cheapest and rudest materials, situated in a deep chalk-pit. The excellence of the South Down flock occupying it, contrasted with the economy of its accommodation, cannot fail to

do credit to the good sense and good management of Mr. Boys, who farms it. Where snow is likely to be drifted, such pits should be protected by a mound or bank round the top; this precaution would be requisite also as a security to stock depasturing near it.

In Herefordshire, corn-stacks are the sheds under which the Ryeland sheep seek for shelter; this also is a profitable and æconomical arrangement, because the staddles must be built high enough to keep the corn out of the reach of vermin, and the height which is sufficient to effect this purpose, is ample for the shelter of a flock of sheep.

Two frames, one of them fastened to the back of hurdles, either round the fold, or if only half round it, on that side where the wind is, and the other forming a pent-house, or cover, towards the inside of the fold, resting on a pole of four or five feet in height, with a declivity of fourteen or fifteen inches, to allow the rain to run off, will give sheep all the protection they require, will keep their fodder dry, and will allow them to seek fresh air when they want it. These frames may be made of five poles, each eight feet long, and at fifteen inches distance from each other; may be bound with withy or rope yarn, to reeds, long straw, or any light substance, which will turn wind and rain; by the help of a light drag on four low wheels, these and the hurdles may be moved from place to place, and set up again in as little time as, without such a carriage, is required to change a common fold. The convenience and trifling expence of such coting, must defeat every objection to a system which ought long ago to have been in general adoption throughout the island; it is possible that, by a sudden change of wind, when blowing hard, these sheltered hurdles may be thrown down occasionally, and sometimes broken; but they may be replaced at a trifling expence. No other objection worthy of notice occurs to their general use.

In Scotland, and the northern counties of England, where most wanted, it is to be regretted that covered folds are rarely, if ever, to be found.





## MANUFACTURE OF VERDIGREASE.

This article, which is so extensively employed in the arts and manufactures, either as pigment or as a drug used in the process of dying, has become so high in consequence of its scarcity, that a mode by which it may be prepared in this country, on an extensive scale, cannot fail interesting the painter or the dyer.

Verdigrease, properly speaking, is a preparation of copper, made by corroding copper plates with the refuse matter of the grape. It is chiefly manufactured at Montpellier; the vines of Languedoc being very convenient for that purpose. The author of the Dictionary of Merchandize says, that in the preparation of verdigrease of Montpellier; "Vine stalks, well dried in the Sun, are put into earthen pots, and upon them wine is poured. The pots being fully covered, the *wine* then undergoes the acetous fermentation, which in summer is finished in seven or eight days. When the fermentation is sufficiently advanced, the stalks are taken out of the pots, and being by this method impregnated with all the acid formed by the acetous fermentation, the remaining liquor is but a very weak vinegar. The stalks well drained, are put into earthen pots, in alternate layers with plates of copper. The copper is thus left to the action of the vinegar for three or four days, or more; in which time the plates become covered with verdigrease. The plates are then taken out of the pots and left in the cellar three or four days, when they are moistened with water, or with the weak vinegar above mentioned, and left to dry. When this moistening and drying of the plates, has been thrice repeated, the verdigrease will be found to have considerably increased in quantity."

The ancients, however, differed in respect to the process of corroding copper. The copper, which was in plates, shavings, or filings, was immersed in the *sour water* left after the formation of wine. Sometimes the copper was exposed to the vapour of vinegar, which, indeed, instead



of being a modern improvement, which many have supposed, bears all the marks, according to historical fact, of antiquity. It appears, in noticing this circumstance, that the greater part of the verdigrease made in ancient times, was manufactured in Cyprus, which was celebrated for its copper works, and in the island of Rhodes.

Verdigrease, according to its *chymical* composition, is composed of oxid of copper and acetic acid, in the proportion to constitute what Dr. Thompson calls a subacetate of copper. This compound, when further combined with acetic acid, forms a salt sold in our shops under the name of distilled verdigrease. Common verdigrease, therefore, differs from the distilled, in containing less acid; and it also differs from verditer, which some have confounded as one and the same, by being composed of copper and acetic acid; whereas verditer is formed of copper and carbonic acid; it being produced by decomposing a solution of copper by carbonate of lime. This, then, is a sub-carbonate of copper. With respect to this substance, it is usually prepared in England as follows: the refiners pour their *copper water* into whiting, stirring them well together every day for some hours, till the water grows pale. This portion is decanted, and more of the *green water* is added; after some days the process is completed, and the verditer is dried for use.

As the rays of chymical science is penetrating into every portion of our country, nothing marks the progress of knowledge and invention, more than that which relates to internal improvement; more especially if such improvement is directed either to the discovery of new substances or new applications. Almost every day shews the truth of this principle. In this sense our hat-ters have employed, since verdigrease has become so extremely high, a substitute formed by decomposing sulphate of copper (which is made in this country) by the potash of the shops.—This preparation answers the purposes generally of a mordant, in fixing the black dye.

Speaking of this preparation brings to memory a fact not generally known. Since the celebrated SCHEELÉ, of

Sweden, discovered that arsenious acid (white arsenic of the shops) when combined with copper in the state of oxid, afforded a green pigment, designated by the name of Scheele's green; the process has been employed in this city with much advantage (in the manufacture of some hundred weight) and sold under the name of *patent green*.

Scheele's green is usually prepared by mixing *white arsenic*, with a solution of potash, and adding thereto a solution of *blue vitriol*. The pigment when washed, to free it of sulphate of potash which is formed, is of a beautiful color, and very durable in all kinds of painting. Brunswick green, a paint formerly in much esteem in Europe, is, it is said, far inferior to Scheele's green, which is also prepared of copper.

Having stated these few facts, which are connected in some measure with the subject under consideration, we shall proceed to consider some circumstances relative to a process of preparing verdigrease in this country, where the stalk or the refuse matter of the grape cannot be had in sufficient quantity.

Copper may either be corroded by the action of vinegar, and thus form verdigrease, by long boiling and frequent exposure to air; or it may be converted into this substance by exposing it in the same manner, and in similar circumstances, as that of corroding plates of lead in the forming of white lead. For the latter purpose, copper plates (old sheathing copper, or any old copper) are to be rolled spirally, so that the space of an inch shall be left between each circumvolution; which must be placed vertically in earthen pots of a proper size, containing good vinegar. These copper rolls ought to be supported in the pots, that they may not be in contact with the vinegar; but that the acid vapor may circulate freely, between the circumvolutions.

The pots are to be covered and placed in a bed of dung. The vinegar being thus exposed to the constant and uniform temperature of a dung heap, suffers a slow, though continual evaporation, and attaches itself to the surface

of these plates, which is penetrated. The metal is therefore corroded, and on taking out the corroded matter, (if necessary to be levigated and washed) the quantity of verdigrease obtained will far exceed the quantity of copper employed. Should the copper plates be too thick, the verdigrease will have to be removed from time to time to facilitate the process.

I have been thus more minute in my explanation than I would otherwise have been ; but knowing that so important a branch of manufacture in this country, must interest our attention (for the reasons already given) and render us completely independent of Europe in this article ; the material of which is found in so great abundance in our country. The retail price of verdigrease, at this time, is \$ 2. 50 to \$ 3 per lb.....*Aurora*..... **Pyro.**

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*To the Editor of the Agricultural Museum.*

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*Haw Thorn, Frederick County, Va.*

September 14, 1810.

*Dear Sir,*

About two years since, a society was formed in this county, to encourage Domestic Manufactures, and improve our breed of Sheep. Before this, little attention had been paid to either of those objects. Some families had made coarse clothing, and a few of our farmers had made some slight efforts to improve their flocks; but the most of us viewed our sheep as a stock of little value, and ran to the stores for all our clothing.

The restrictions imposed on our commerce, by England and France, opened our eyes. We saw and forcibly felt the necessity of cultivating our own resources, and thereby lessening our hitherto thoughtless dependence on foreigners, for those comforts and necessities of life, which were so entirely within the reach of our own means. The trial has taught us a lesson as valuable and instructive, as it was unexpected. Many of us have forever banished from our use every foreign article of clothing, and are now better dressed than we ever were be-



fore, with the proud, consoling recollection, that our clothes are made of American materials, and in our own families.

The first meeting of our society to award premiums, was held on the 22d May, 1809, when Mr. RICHARD K. MEADE, was the only member who had a Lamb, that he was not ashamed to show. He exhibited one that weighed on foot 159 lbs. and produced a fleece of 9 lb. 6 oz. of washed wool. He is a descendant of Bakewell, that took the first of Mr. Custis's prizes.

On the 21 May, 1810, the second annual meeting was held, when the following lambs were shown:

		Weight on foot.	Fleece.	
		lb.	lb.	oz.
Mr. David Ridgeway's Lamb,				
(Tom Tackle),		180	9	12
Richard K. Meade's	do.	156	9	
Dr. Robert Mackay's	do.	169	8	8
Mr. Philip Nelson's	do.	160	8	8
do.	do.	134	8	8

The fleeces from those lambs were weighed in the dirt, they were however unusually clean. Mr. Ridgeway, and Dr. Mackay's lambs are about quarter blooded Barbary. The others are, I believe, from Mr. Custis's Bakewell.

Mr. Ridgeway weighed a couple of his lambs, not long since, at five months old. They are twins. One weighed 115 lbs.—the other 116 lbs. They are descendants of his prize ram, Tom Tackle, who was permitted to go to a few ewes last fall.

The wool of the Barbary sheep which we have amongst us, is vastly superior in point of quality to our native wool.

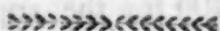
At the last meeting a variety of fine woollen, cotton and flaxen cloths were exhibited, that did honor to our country. I will give you an account of them a few mails hence.

I am, &c.

Lawrence A. Washington,  
Sec'y. to the above Society.

## ARTS AND SCIENCES.

inventions and improvements.



## MERINO SHEEP.

The following facts relative to the recent importation of Merino Sheep at this place and New-York, have been communicated to us by a gentleman, whose sources of information are entitled to perfect confidence.

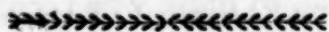
The number of Merino Sheep imported from Lisbon within the last month, may be justly considered as matter of astonishment, by those who recollect the difficulties which were stated to exist in procuring those animals ; it will therefore be gratifying to be informed of the fortunate event, which has been the cause of a much larger supply, than the United States could have expected, and than could ever have been procured by the greatest exertions, if that event had not occurred. It will also be beneficial to know what number may be relied on, to

prevent erroneous calculations, by those who are interested in the breeding of that most valuable animal.

It is generally known, that in consequence of a decree of the Supreme Government of Spain, the estates of Don Manuel Godoy, the Prince of Peace, were confiscated, and that on some of these estates were the best flocks of Merino Sheep in Spain; the two principal, that of the *Convent of Paular*, sold by the Carthusian Friars to the Prince in the year 1796, and that of *Arguirres*, raised from the Imperial Flocks of Charles the Vth, were of the best breed, and a large proportion of these have been sold by the Supreme Junta of the Province of Estremadura, to the British Commissary General, and to the American Consul, from whom purchases have been made for this country. Nearly all those purchased by the British Commissary General, have been sent to England, and the whole number secured for the United States does not exceed 3000, of which 1800 have already been imported. Experience shews us that upon an average 1-5th are lost before they are on the lands of the purchasers in this country, (including those lost on the voyage, which in many instances has been 1-6th) there will therefore remain about 2400 for the supply of the whole of the United States, to which may be added, perhaps 300 of a good breed procured from Cadiz and its vicinity.

The recent importations are all accompanied with a variety of well authenticated documents, so as to leave no doubt of the breed being as represented, and it is much to be feared, that such a brilliant opportunity of benefiting the Woolen Manufacture of the United States will not again offer.

*Comm. Register.*



*A new Method of assaying Copper Ores.*

By GEORGE FORDYCE, M. D. F. R. S.

From the TRANSACTIONS of the ROYAL SOCIETY of LONDON.

*Process.* Take 100 grains of the ore, powder it finely, put it into a small matrass or a glass phial, pour upon it



half an ounce of nitrous acid, of the strength commonly sold by the name of *aqua fortis*, (that is, the pure acid diluted with about four times its weight of water), and half an ounce of muriatic acid, sold by the name of spirit of salt. Place the vessel in a sand-heat ; or, if you have none, an iron pot or fire-shovel, with sand, may be put over a common fire, and the matrass or phial set in it. Raise a moderate heat, an effervescence will take place, for the most part ; when this ceases, increase the heat until it is renewed, and so proceed until the liquor boils, which is also to be done if no effervescence takes place ; boil them together for a quarter of an hour.

Remove the vessel from the fire, and let it cool, then pour into it two ounces of water, shake them together, and let them stand till the liquor is clear ; pour the clear liquor into a bason where it may be preserved.

Add to the *residuum* a fresh half ounce of each of the acids, and proceed again in the same manner, mixing the clear liquor with that procured by the first process.

The same operation is to be repeated, until the fresh acids acquire no tinge of blue or green.

Dissolve half a pound of mild fixed vegetable alkali, commonly sold by the name of salt of tartar, in a quart of water. Purify the solution, either by filtration, or by letting the impurities subside and decanting the liquor clear into a glass vessel. Pour the solution of the alkali slowly into the bason containing the fluid procured by the former processes, until the whole matter be precipitated from the acids.

Add, by a little at a time, as much vitriolic acid, commonly sold by the name of oil of vitriol, as will redissolve the whole, or only leave a white powder ; if there should be any such powder, which is seldom the case, it must be separated by filtration.

Having the liquor in the bason now clear, put into it a piece of iron, bright and free from rust, and at least an ounce in weight, and leave them together for twenty four hours ; the copper will be found precipitated, prin-

cipally on the surface of the iron, and sometimes in a powder at the bottom of the bason.

Decant the fluid from the copper and iron, with great care, into another bason, so that as little as possible, or none of the copper be carried along with it.

Wash the metals in a pint of water; let them subside perfectly, and pour this water into the second bason, with the same care.

Repeat the washing three times: if any copper be found in the second bason, let the washings stand in it for half an hour, so that the metal shall subside; decant the fluid carefully off, and return the copper into the first bason. Pour upon the copper and iron one ounce of vitriolic acid, and two ounces of water; let them stand together for a quarter of an hour, or until the copper shall be easily separable from the iron. Separate the copper from the iron, taking great care that none be lost; the remaining iron may be laid aside. Pour the acid from the copper, after it has subsided, into the second bason; wash the copper with a pint of water, and repeat the washing three times, as before directed.

Great care is to be taken, in decanting both the acid and washings into the second bason, that none of the copper goes along with them; lest any should, they ought to stand for half an hour in the second bason, and be decanted from it also with care; and, if any copper is found at the bottom, it is to be washed, and added to the rest.

The copper is now to be dried and weighed, and gives the proportion contained in the ore.

*To be Continued.*

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PRINTED FOR AND PUBLISHED BY DAVID WILEY.

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*Price \$ 2.50 for twenty four Numbers,  
To be paid in advance.*